Alg. 2 Warm Up #1-2

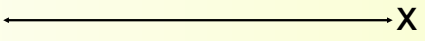
Warm Up sheets by the door.

1. Solve:

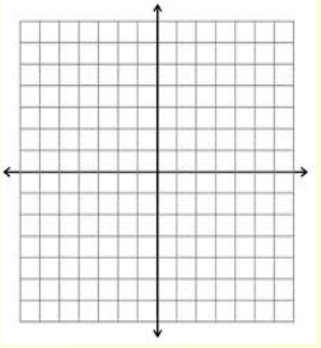
$x^2 + 2x - 3 = 0$

2. Solve and represent solution on a number line:

$x^2 + 2x - 3 < 0$



3. Graph: $y < x^2 + 2x - 3$



Review of Quadratic Inequalities

Solve in one variable: Find the x values that make the inequality true. (Like #2 from the warm up.)

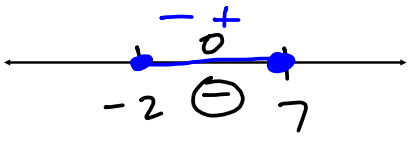
* Find critical numbers (boundary points) where the equation = 0.

* Plot the critical numbers on a number line dividing the number line into sections.

* Test a number in each section to find where the inequality is true.

Example:

1) $(x - 7)(x + 2) \leq 0$

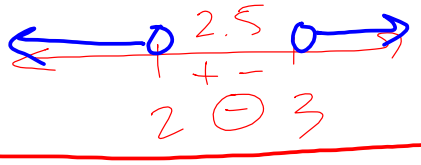


$-2 \leq x \leq 7$

$[-2, 7]$

2) $x^2 - 5x + 6 > 0$

$(x-2)(x-3) > 0$



$x < 2$ or $x > 3$

$(-\infty, 2) \cup (3, \infty)$

Linear and Quadratic Inequalities in x and y: Find the (x, y) coordinate pairs that make the inequality true. The solution will be a shaded region in the coordinate plane that may or may not include the boundary line or parabola.

* Graph the line or parabola; consider if it should be solid or dashed.

* Test a point (x, y) clearly not on the line or parabola to see if it makes the inequality true.

* Shade the solution region, where the inequality is true.

Example:

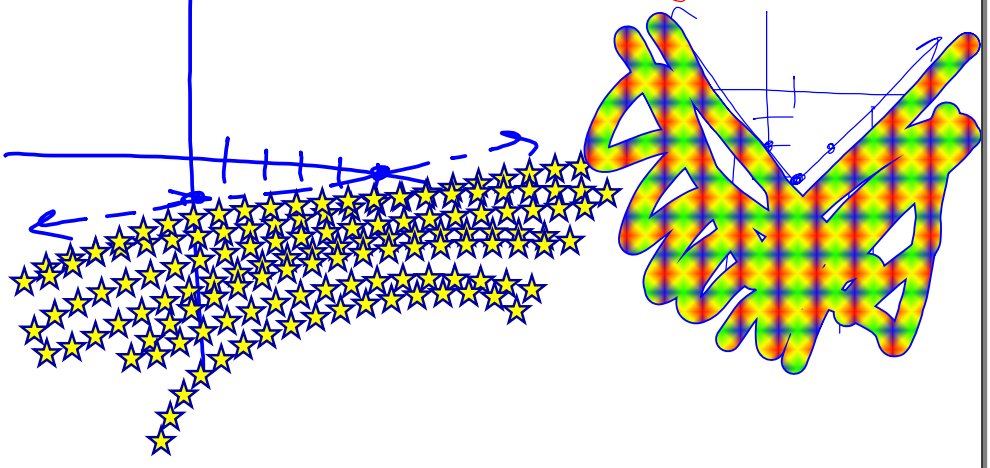
1) $x - 5y \geq 5$

$0 - 0 \geq 5$?

2) $y \leq |x - 1| - 3$

$|0 - 1| - 3$

$y = 1 - 3 = -2$



Classwork: Graphing Inequalities

*Use quick graphing skills to accurately graph the boundary line or parabola.

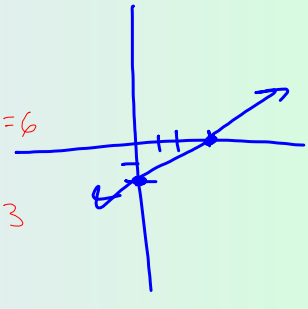
$y = (x - h)^2 + k$	vertex at (h, k)
$y = (x - a)(x - b)$	x-int: (a, 0) & (b, 0)
$y = mx + b$	y-int: (0, b); m = slope
$Ax + By = C$	plot x & y intercepts

$2x - 3y = 6$

$2(0) - 3y = 6$ $\quad 2x - 3(0) = 6$

$-3y = 6$ $\quad 2x = 6$

y-int: -2 $\quad$ x-int: 3



Alg 2 ebook:

http://enroll.cpm.org

Your website:

Go to South web page,

Faculty Sites, Math,

Nicholson

HW: Ch 4 homework WS #1

Get a book by tomorrow!

Core Connections
Algebra 2, Volume **One**